

SUPPORT FOR THE AMENDMENT

Support for the amendments to claims 3-5 is found in claim 1 as originally presented. No new matter would be added to this application by entry of this amendment.

Upon entry of this amendment, claims 1-14 will remain active in this application with claims 1-5 and 9-14 being under active consideration.

REQUEST FOR RECONSIDERATION

The claimed invention is directed to a **9-cyano** substituted perylene-3,4-dicarboxylic monoimide, a process for preparing same, method for coloring with same, compositions comprising same and a method for preparing an aqueous polymer dispersion using same.

Applicants wish to thank examiner Charanjit for indicating that claims 3-5 are allowable if rewritten in independent form. Applicants have now rewritten claims 3-5 to include all of the necessary limitations from claim 1. In view of applicants' amendment, the examiner is invited to pass claims 3-5 to issue.

Known perylene-3,4-dicarboxylic monoimides are described as absorbing and emitting in the orange to bluish-red color range. Compounds with advantageous application properties and which absorb and emit at a shorter wavelength (more hypsochromically), i.e. in the yellow region of the electromagnetic spectrum are sought.

The claimed invention addresses this problem by providing 9-cyano-substituted perylene- 3,4-dicarboxylic monoimides which can have advantageous application properties such as readily being incorporated into application medium and absorbing and emitting more hypsochromically i.e. in the yellow region of the electromagnetic spectrum. Such a 9-cyano perylene- 3, 4- dicarboxylic monoimide is nowhere disclose or suggested in the cited reference.

The rejection of claims 1, 2 and 9-14 under 35 U.S.C. 103(a) over Mathauer et al. U.S. 6,727,318 is respectfully traversed.

9-cyano-substituted perylene-3, 4-dicarboxylic monoimides as claimed are nowhere disclosed or suggested in the cited reference.

Mathauer et al. describes at column 14, a **copolymerizable** perylene dye of formula III. At column 10 is a generic description of perylimide-dyes which may or not be substituted at the 1, 6 and 9 positions. The examiner cites to dyes 16, 17a and 17b as meeting the claim limitations **but for** substitution at the 9 position by alkyl or phenyl groups.

Applicants note that each of dyes 16, 17a and 17b are substituted at the 9 position with a **unsaturated polymerizable group**. Such unsaturated groups are **essential** to making each of dyes 16, 17a and 17b a **copolymerizable** perylene dye. As such there would be no motivation to **destroy the copolymerizability** of the 9-substituted perylene dyes 16, 17a and 17b of Mathauer et al. with a cyano group which does not have the same ability to copolymerize with ethylenically unsaturated monomers as do dyes 16, 17a and 17b.

In contrast, the claimed invention is directed to perylene dyes in which the 9-position is substituted with a **cyano group**. As replacement of the ethylenically unsaturated groups at the 9 position of dyes 16, 17a and 17b of Mathauer et al., with a cyano group, would destroy the essential ethylenically unsaturated monomer copolymerizability of dyes 16, 17a and 17b, there would be no motivation to make the replacement suggested by the examiner. There is no obviousness in destroying the essential features of the cited reference.

Moreover, Mathaure et al. fails to provide a disclosure of synthesis of 9-cyano substituted compounds as claimed. Due to the general reactivity of peryleneimides, a synthesis following the routes described in Mathaure et al would generally result in substitution at the more reactive 1 and 6 positions and not at the terminal 9 position. Attempted synthesis would be expected to produce 1,6-di-cyano, 1,6,9 tricyano or even

higher substitution patterns. This is one reason that the claimed 9-cyano perylene compounds are synthesized via intermediates (IIIa) and (IIIb).

Thus, as Mathauer et al fail to suggest a method for preparing the claimed 9-cyano perylene compounds, the claimed invention would not have been obvious based on this reference.

Finally, applicants observe a hypsochromic shift of the absorption and emission wavelengths to **the yellow range** of the visible electromagnetic spectrum. While perylene-3, 4-dicarboxylic monoimides, including those of Mathaure et al. generally absorb and emit in the **orange to bluish-red range**, the claimed 9-cyano perylimides absorb and emit in **the yellow range** of the visible spectrum. Such a hypsochromic shift is not suggested by Mathaure et al.

As the cited reference 1) provides no motivation to modify either of dyes 16, 17a or 17b to replace the essential ethylenically unsaturated units with a cyano group, 2) does not suggest a method of preparing such a 9-cyano substituted compound nor 3) suggest the observed hypsochromic shift to the yellow range of the visible spectrum, the claimed invention would not have been obvious over the cited reference and accordingly, withdrawal of the rejection under 35 U.S.C. §103(a) is respectfully requested.

The examiner's objection to the specification has been obviated by shortening the abstract to delete specific description of the substituents *in lieu* of reference to substituent description being made in the specification. Withdrawal of this objection is respectfully requested.

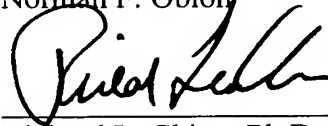
The objection to claim 4 has been obviated by appropriate amendment, introducing the limitations of claim 1 into claim 3 such that claim 4 is not dependent on claims 1 and 3 simultaneously. In view of applicants' amendment, withdrawal of this objection is respectfully requested.

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Applicants submit that this application is now in condition for allowance and early notification of such action is earnestly solicited.

Respectfully submitted,

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